Assessment Showcase

January 3, 2019 ~ 1-2pm ~ 2-201

1

Overview

I. Drake Zintgraff (Counseling)

II. Bob Perkings (Small Vessel Fabrication and Repair)

III. John Delay (Geography)

IV. Sterling Foster (Math)

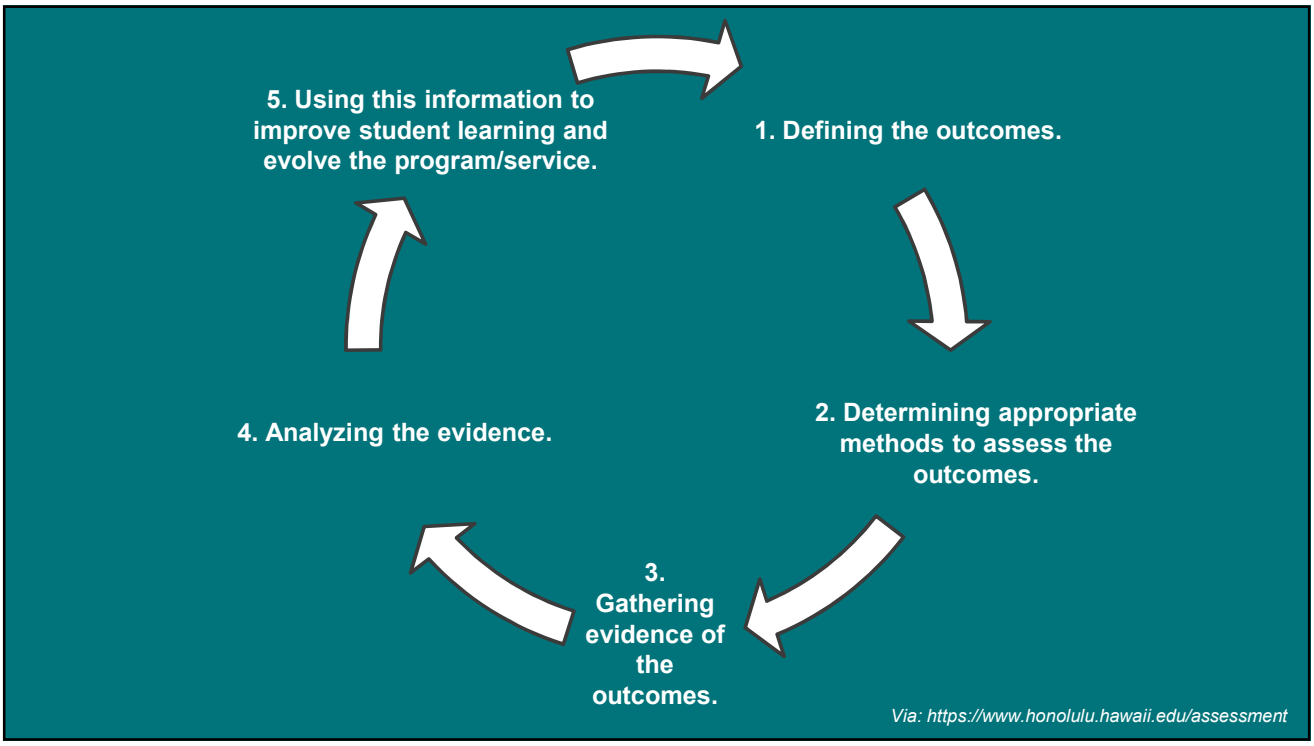
V. Alapaki Luke (Hawaiian studies)

2

Making assessment work for us

Project of: Honolulu CC Academic Counseling
Presented by: Drake Zintgraff

1



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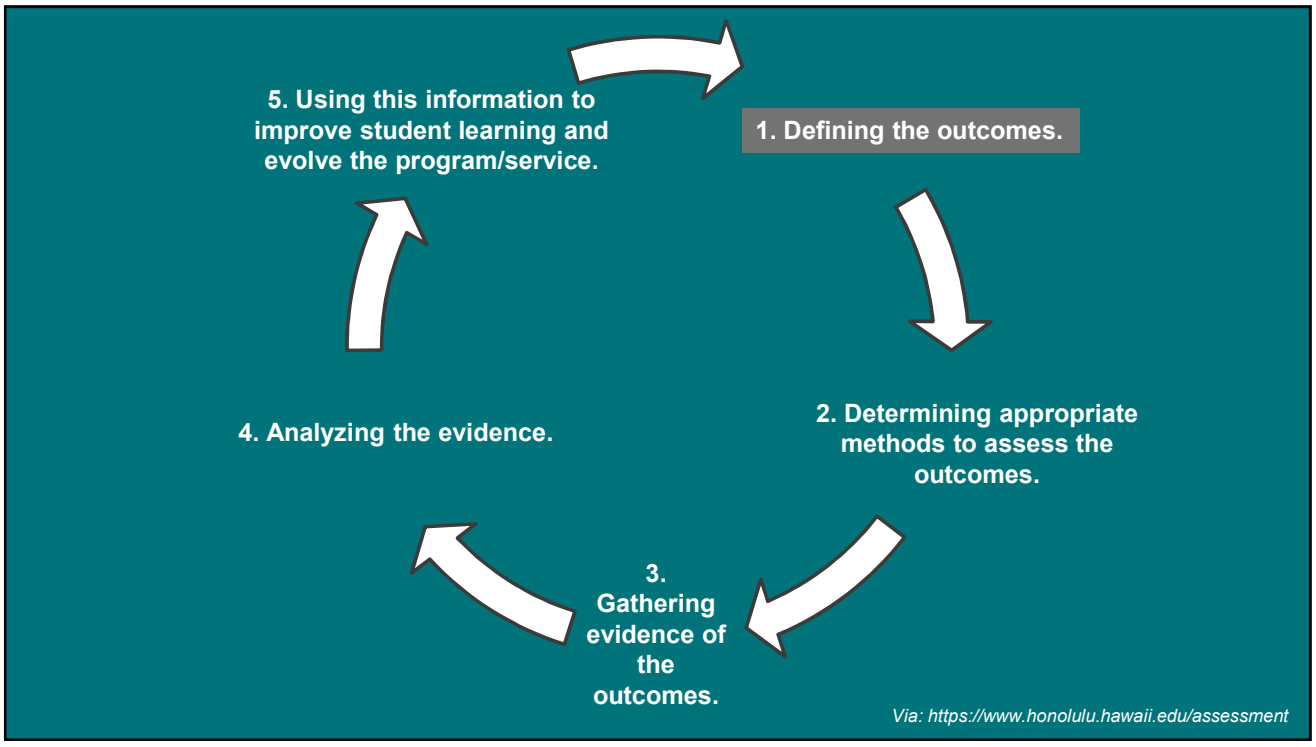

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Streamlined and informed SLOs

Honolulu CC ILOs → **Academic Counseling SLO/SAOs** → **Advising Month Outcomes**

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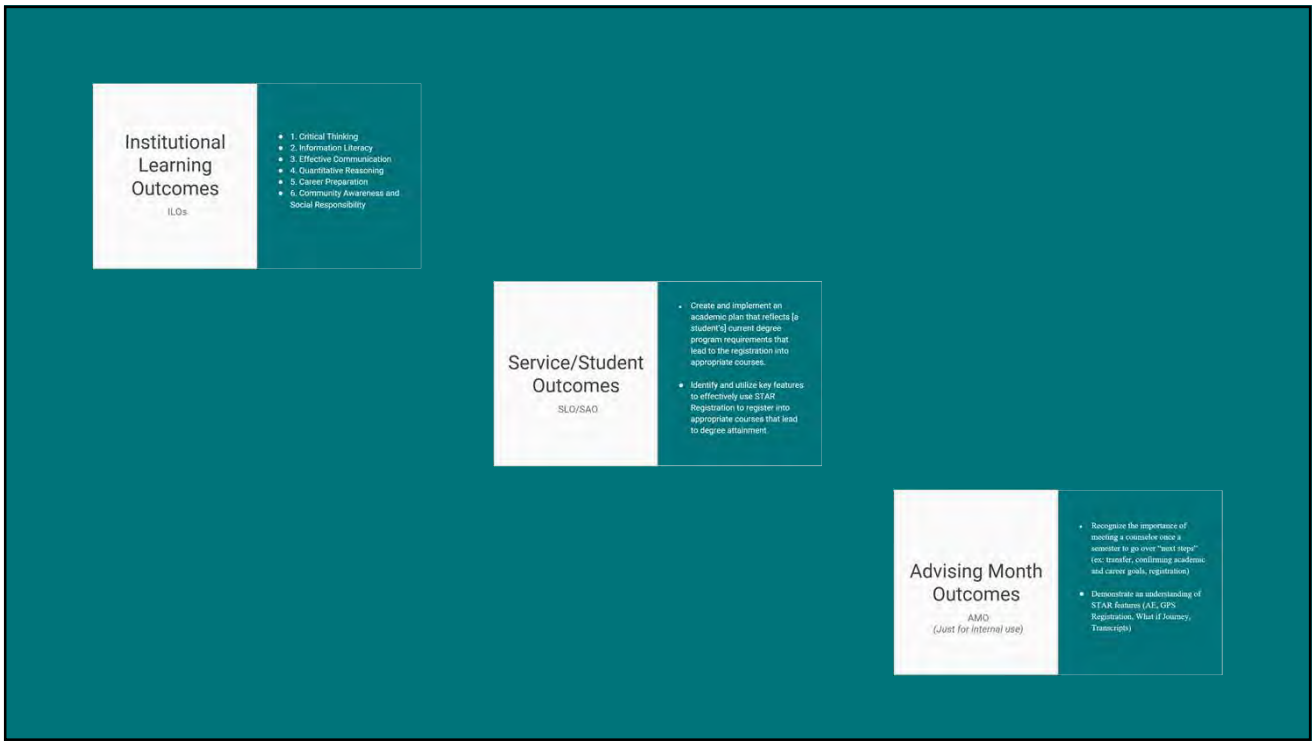


5

Institutional Learning Outcomes

ILOs

- 1. Critical Thinking
- 2. Information Literacy
- 3. Effective Communication
- 4. Quantitative Reasoning
- 5. Career Preparation
- 6. Community Awareness and Social Responsibility

6

Service/Student Outcomes

SLO/SAO

- Create and implement an academic plan that reflects [a student's] current degree program requirements that lead to the registration into appropriate courses.
- Identify and utilize key features to effectively use STAR Registration to register into appropriate courses that lead to degree attainment.

7

Advising Month Outcomes

AMO
(Just for internal use)

- Recognize the importance of meeting a counselor once a semester to go over "next steps" (ex: transfer, confirming academic and career goals, registration)
- Demonstrate an understanding of STAR features (AE, GPS Registration, What if Journey, Transcripts)

8

Assessment Connected

ILO

Information Literacy

SAO

Identify and utilize key features to effectively use STAR Registration to register into appropriate courses that lead to degree attainment.

AMO

Demonstrate an understanding of STAR features (AE, GPS Registration, What if Journey, Transcripts)

9

Assessment Connected

ILO

Career Preparation

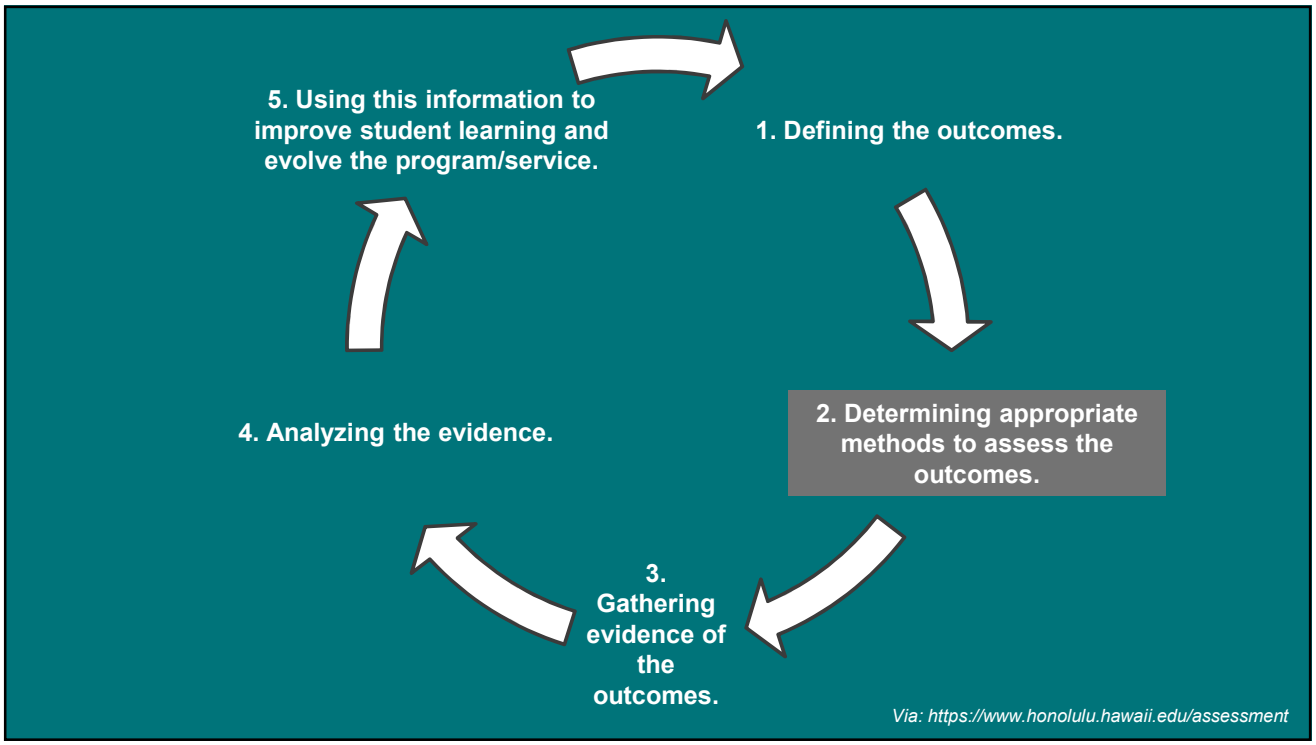
SAO

Create and implement an academic plan that reflects [a student's] current degree program requirements that lead to the registration into appropriate courses.

AMO

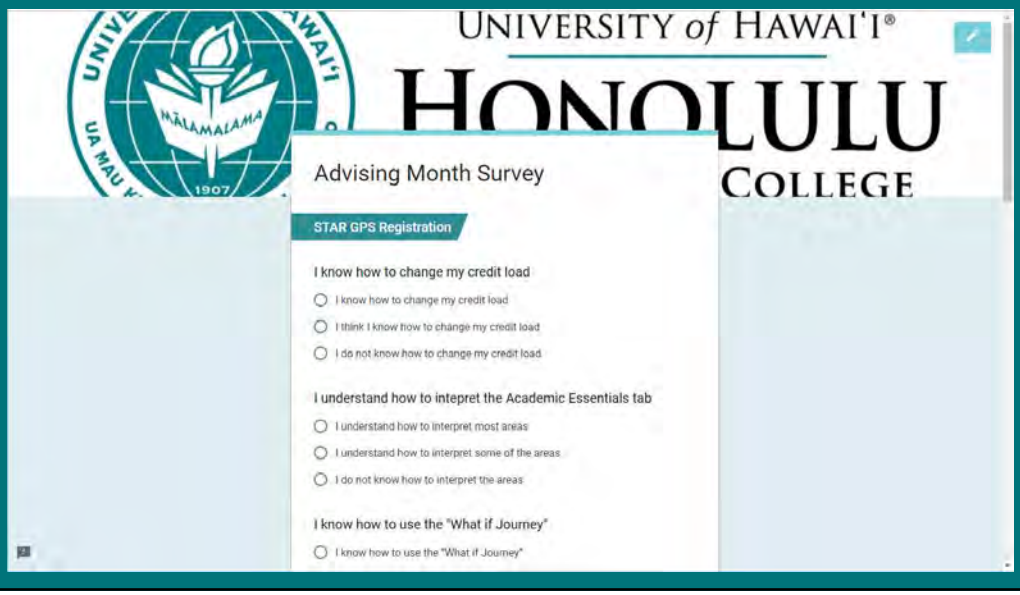
Recognize the importance of meeting a counselor once a semester to go over "next steps" (ex: transfer, confirming academic and career goals, registration)

10



11

Online Form



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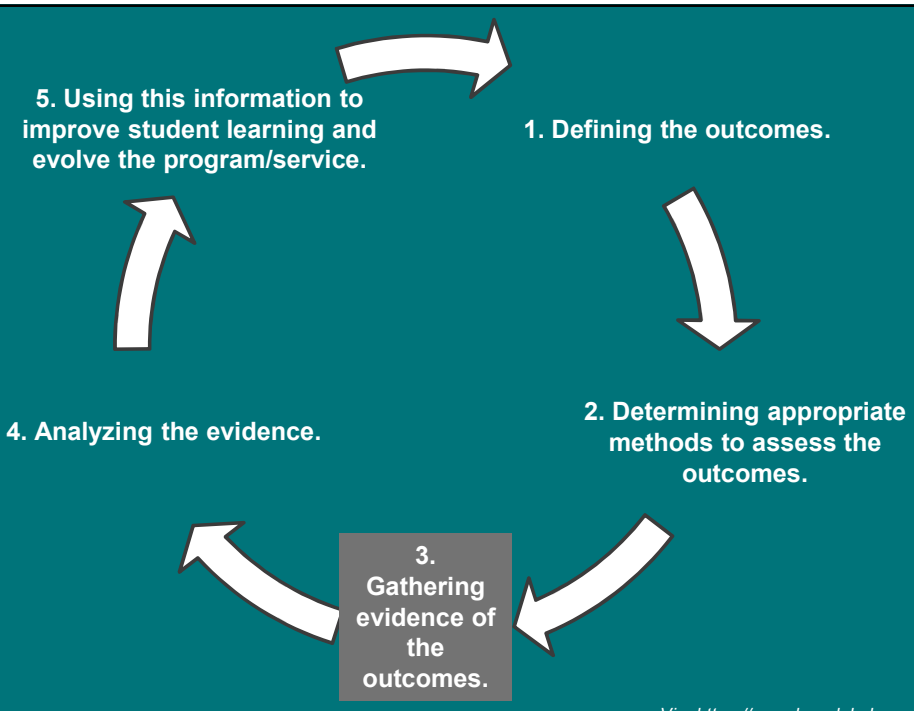
Paper Form

13



Via: https://www.honolulu.hawaii.edu/assessment

14

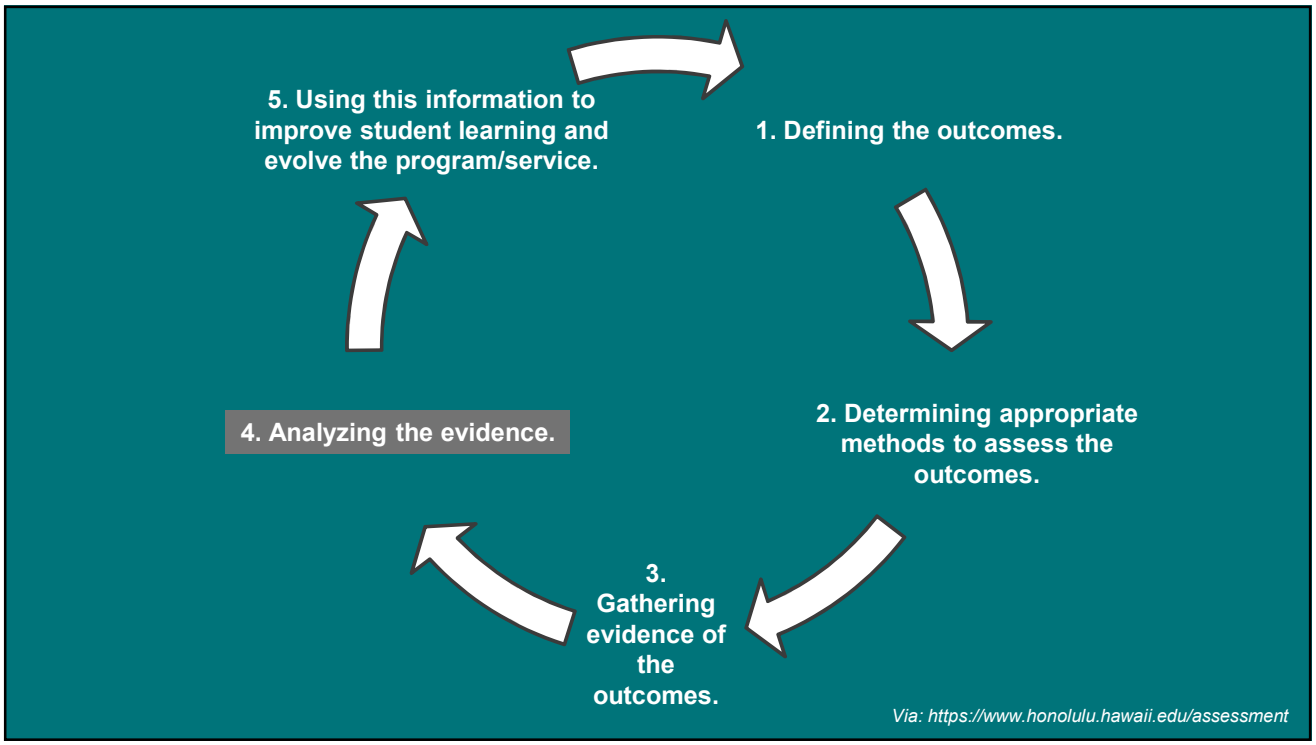
Methods

- Class visits
  - 10 minute and 30 minute sessions
    - 30 minute session includes all of 10 minute session
- Workshops
  - 30 minute sessions

15

Consistency

16



17

Pre/Post Test Question	Pre Test Response	Post Test Response	% Difference
1. I know how to use my STAR GPS Registration Pathway to plan for graduation	90.20%	98.50%	**8.30%**
	89.70%	97.90%	**8.20%**
2. I know how to move a course from one semester to another by dragging and dropping	84.90%	98.50%	**13.60%**
	92.00%	99.40%	**7.40%**
3. I know how to change my credit load per semester on my STAR GPS Registration Pathway	73%	96.90%	**23.90%**
	81.70%	97.40%	**15.70%**
4. I know how to register for courses using my STAR GPS Registration	93.20%	97.50%	**4.30%**
	93.90%	98.80%	**4.90%**
5. I know how to use the Filter/Search Option in STAR GPS Registration	77.20%	96%	**18.80%**
	82.20%	96.40%	**14.20%**
6. I know how to drop a course in STAR GPS Registration	85.50%	97.50%	**11.70%**
	89.20%	98.40%	**9.20%**
7. I know how to use the What if Journey feature to help me decide if I want to change my major	67.70%	95.70%	**28%**
	78.00%	94.90%	**19.90%**
8. I know how to check my grades using the Transcripts feature	76.30%	95.70%	**19.40%**
	78.00%	97.40%	**19.40%**
9. I know how to review my Academic Essentials tab (Spring 2018 Only)	73.40%	96.90%	**23.50%**

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Previous learning

Covered at NSR and needed right away

- 1. I know how to use my STAR GPS Registration Pathway to plan for graduation
- 2. I know how to move a course from one semester to another by dragging and dropping
- 4. I know how to register for courses using my STAR GPS Registration
- 5. I know how to use the Filter/Search Option in STAR GPS Registration
- 6. I know how to drop a course in STAR GPS Registration

Covered at NSR, may not be needed right away

- 3. I know how to change my credit load per semester on my STAR GPS Registration Pathway
- 7. I know how to use the "What if Journey" feature to help me decide if I want to change my major
- 8. I know how to check my grades using the "Transcripts" feature
- 9. I know how to review my Academic Essentials tab (Spring 2018 Only)

19

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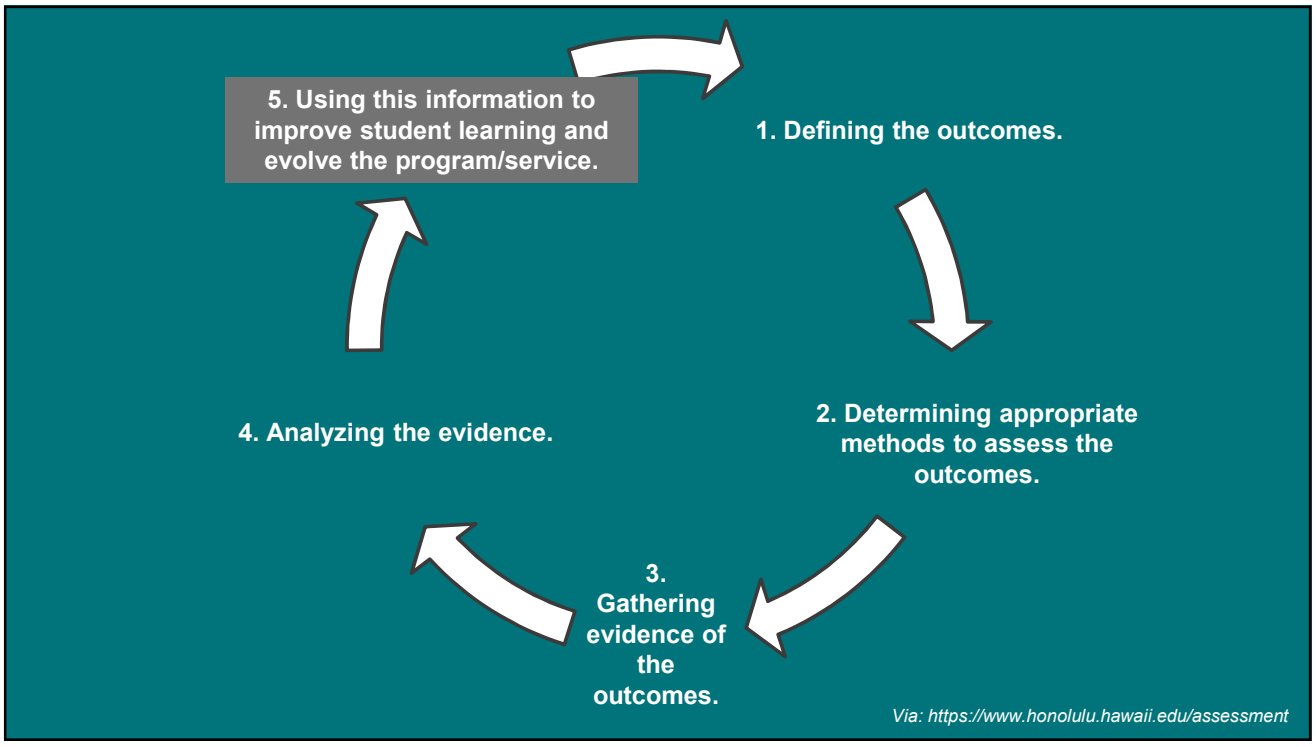

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Using the assessment

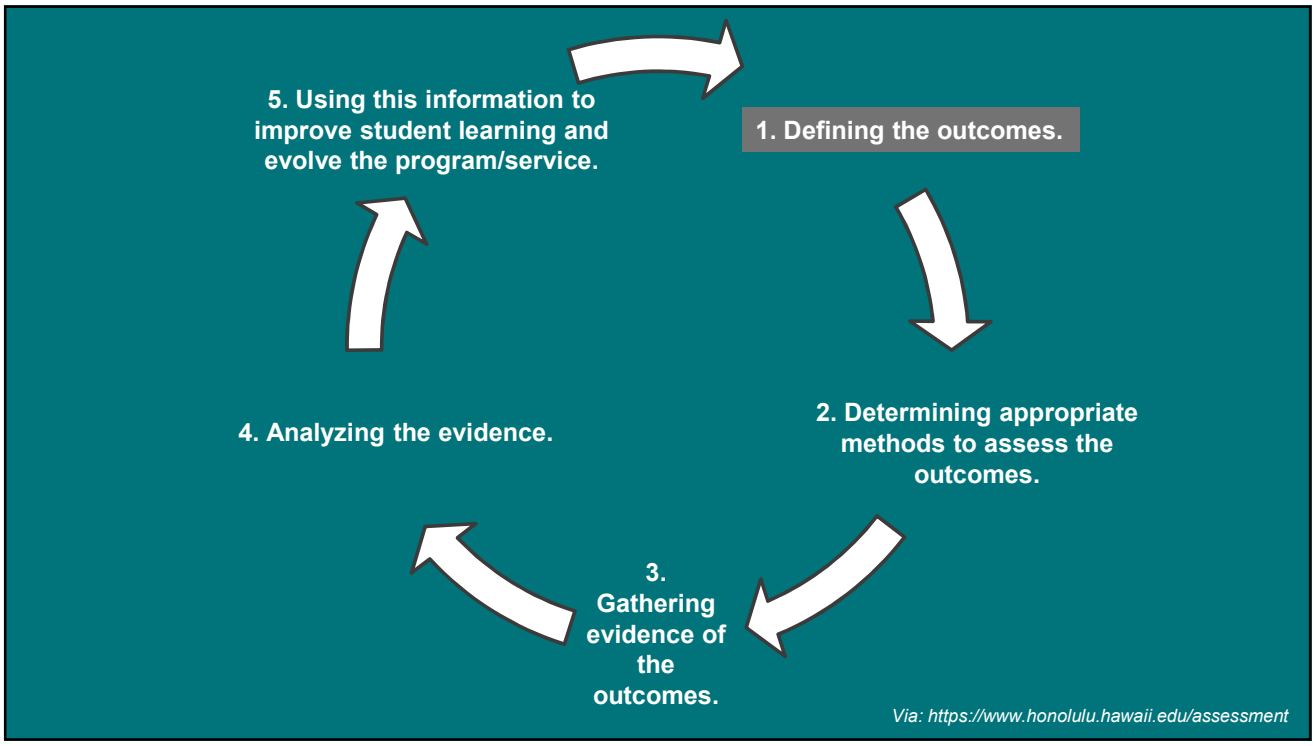
- Gathering non-survey assessment
  - Ideas
  - Observations
  - Feedback
- Getting all sides of the story
  - Students
  - Counselors
  - Instructors
  - Admin
  - Other

22

Using the assessment

- Feedback
  - Increasing 10 minute presentations
  - Messaging out to faculty
    - Options good, but not always
  - Paper vs online survey?
  - Campus events
  - Utilizing waiting areas (digital signage, waiting room)
  - DE students

23



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Questions?

Ask now!

Or Later:

Drake Zintgraff
Academic Counselor
drakez@hawaii.edu
Building 5, Room 114

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SOME THOUGHTS ON ASSESSMENT

Evaluating what is being taught, how well it is being taught and if it needs to be taught.

Bob Perkins
Associate Professor
Small Vessel Fabrication and Repair

1

DO THE COURSE'S STUDENT LEARNING OUTCOMES (SLO'S) REFLECT THE MISSION OF THE COURSE?

SLO's should define and exemplify why the course exists and what the student will gain in completing the course. How the course will aid in future learning and/or expertise in particular skill sets.

2

ASSESSMENT SHOULD DEFINE IF A PARTICULAR SLO HAS BEEN ACCOMPLISHED, HOW WELL IT WAS ACCOMPLISHED, AND, IF THE INSTRUCTIONAL METHOD MET THE GOAL OF CONVEYING THE SKILL SET/INFORMATION.

Does the assessment have validity for the SLO?

Does the assessment have reliability for the SLO?

Does the assessment have non-prejudicial dynamics for the student?

3

SETTING UP AN ASSESSMENT METHODOLOGY

1. Define the goals for the course. What major learning outcomes or skill sets (5-6) should the successful student leave the course with? These are the Student Learning Outcomes (SLO's).
2. How best to ascertain how well the student mastered a particular SLO is at the heart of successful assessment.
3. If the SLO's for a course already exist, establish the method for assessing each SLO.
4. Assessments measure the strength of the teaching method used and the validity of the SLO as it relates to the course as well as student performance.

4

ASSESSMENT IN AN EDUCATIONAL ARENA ESTABLISHES CLEAR AND MEASUREABLE STUDENT LEARNING OUTCOMES.

There are many and varied forms of assessment, including objective and subjective testing, embedded, observational, comparative, pre/post eval, to name a few. No matter which assessment method is used, it must measure the SLO in a fair and equal manner across the student population. And accurately provide a substantitive appraisal of the SLO.

If, however, a particular assessment of a SLO shows that few of the student populace achieved satisfactory results, then the teaching methodology and delivery should be scrutinized.

5

AN EXAMPLE OF ASSESSING A CTE LEARNING OBJECTIVE

SLO: Student demonstrates proper safety procedures when working with power tools.

1. Define "proper safety procedures"
    1. Eye protection
    2. Hearing protection
    3. Breathing protection
    4. Margin of safety for a particular tool

    This assessment will use objective observation. The assessor will observe whether the student is using safety procedures while using the different tools and assign a numerical value; 1 for utilization of the safety protection, 0 for not using. The numerical values can then be added together to ascertain a degree of compliance to safety procedures.

6

A RUBRIC WAS CREATED FOR EACH STUDENT. THE RUBRIC CONTAINED THE SAFETY ITEMS THAT THE STUDENT SHOULD HAVE WHEN USING A PARTICULAR TOOL. A VALUE OF 1 OR 0 WAS GIVEN DEPENDING ON WHETHER THE STUDENT USED THE SAFETY ITEM REQUIRED. AT THE END OF THE COURSE, SCORES OF THE RUBRICS WERE ADDED TOGETHER TO GET A NUMERICAL VALUE. A PASS, MARGINAL AND DID NOT PASS VALUES WERE GIVEN. THE TABLE BELOW DEMONSTRATES THE PROCEDURE:

Student Name:		**Student 1**		
TOOL	EYE PROTECTION	HEARING PROTECTION	BREATHING PROTECTION	MARGIN OF SAFETY
Table Saw	1	1	0	0
Band Saw	1	0	1	0
Jointer	0	1	1	1
Drill Press	1	1	1	0
Planner	1	1	1	0
Totals	4	4	4	1
GRAND TOTAL	13	Pass>14	Marginal>10	Did Not Pass<10

7

In the above example, the student's score was "marginal". A rubric containing all the course participants could also be made, with the scores, as shown below:

Student #	Eye Protection	Hearing Protection	Breathing Protection	Margin of Safety	Total	Score
1	4	4	4	1	12	Marginal
2	5	5	3	0	13	Marginal
3	5	3	3	0	11	Marginal
4	5	4	2	0	11	Marginal
5	5	5	5	1	16	Pass
6	5	4	3	0	12	Marginal
7	5	4	4	0	13	Marginal
8	5	5	3	0	13	Marginal
9	5	4	4	0	13	Marginal
10	5	5	5	0	16	Pass
Total	49	44	36	2	//////////////	

8

In the 10 student example, all students passed, although many were "marginal". Upon closer examination, the scores indicate that very few of the students grasped the idea of "margin of Safety", for any of the machines. This could be an indication that the method of educational delivery to the students could be at fault, as opposed to almost all the students not paying attention, sleeping, etc. In fact, only 20% of this student population showed the correct skill set. Perhaps the method of delivery should be altered/adjusted to better empower the students.

The preceeding has attempted to show how assessing by observation can be used to create an objective, numerical value, that can then be compared to other students, course years, and method(s) of instruction. In a CTE environment, it is important to see how the students hands-on skill sets are. Are they developed to the point of industry standards? They only way to know is to observe in a working setting. An objective, well thought out observational procedure is an important assessment tool for the Career and Technical Trades.

9

Assessment Example
BOT/HWST 105 DS, HAP

Limu Taxonomy

- Scientific name includes *genus* (generic) and species (specific) ie. *Ulva fasciata*
- *Genus* is first word and always capitalized ie. *Ulva*
- Also primarily identified by pigmentation
  - Chlorophyta-Green Algae
  - Rhodophyta-Red Algae
  - Phaeophyceae-Brown Algae

Limu wawae'iole
(Codium edule)

Chlorophyta
Green Algae

JOHN DELAY PHD.
ASSISTANT PROFESSOR: GEOGRAPHY
HONOLULU COMMUNITY COLLEGE
ASSESSMENT SHOWCASE SPRING 2019

1

Course Themes and SLOs

Theme	SLO
Origin	Identify the origins and dispersal agents of endemic, indigenous, and introduced plants in Hawai'i.
Environment	Describe the influence of natural history and environmental conditions on the habitat distribution of these plants and on Hawaiian settlement patterns.
Identification	Identify plants of ethnobotanical significance in Hawaiian culture by their Hawaiian names.
Taxonomy	Demonstrate awareness of scientific and folk taxonomy as they relate to Hawaiian plants.
Culture	Discuss the relationship of selected plants to Hawaiian material culture, agricultural practices, and belief systems.
Intersection	Compare Hawaiian ethnobotanical practices with those in other Polynesian societies.

2

SLOs and Test Questions

SLO	Test Question
Identify the origins and dispersal agents of endemic, indigenous, and introduced plants in Hawai'i.	The three (non-human) general dispersal mechanisms for plants colonizing Hawai'i are by_____, _____, and _____.
Describe the influence of natural history and environmental conditions on the habitat distribution of these plants and on Hawaiian settlement patterns.	The theory regarding Hawaiian settlement suggests Hawaiians first settled the _____side of the islands.
Identify plants of ethnobotanical significance in Hawaiian culture by their Hawaiian names.	Provide the letter corresponding to the Hawaiian names for the plants in each slide.
Demonstrate awareness of scientific and folk taxonomy as they relate to Hawaiian plants.	_____ is the Hawaiian name of one species of marine algae in the genus _____ and the pigment classification (color) _____.
Discuss the relationship of selected plants to Hawaiian material culture, agricultural practices, and belief systems.	Plant forms of the four primary deities in the Hawaiian pantheon are referred to as _____. Major associations include Lono and _____or Kāne and _____.
Compare Hawaiian ethnobotanical practices with those in other Polynesian societies.	Compared to other Pacific Island cultures, Hawaiians consumed _____species of marine algae.

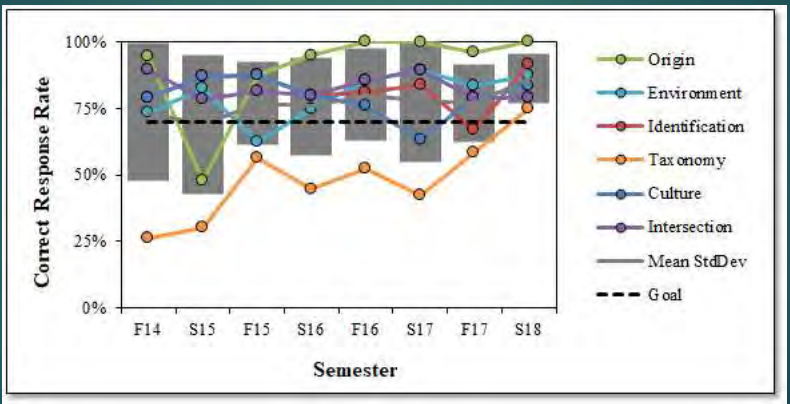
3

Goal and Corrective Measures

- 70% Correct Response Rate
- Changes
  - Study Guide
  - Test Question
  - PowerPoint Slides
  - Exercise

4

Tracking and Repetition



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Taxonomy

- SLO: Demonstrate awareness of scientific and folk taxonomy as they relate to Hawaiian plants.
- Question: is the Hawaiian name of one species of marine algae in the genus and the pigment classification (color) .
- Textbook author first Hawaiian woman to earn PhD.
- Perspective of Hawaiian and scientist.
- Latin scientific and Hawaiian folk taxonomy.
- Made changes in all corrective categories.

6

PowerPoint Changes

Limu Taxonomy

- Scientific name includes *genus* (generic) and species (specific) ie. *Ulva fasciata*
- *Genus* is first word and always capitalized ie. *Ulva*
- Also primarily identified by pigmentation
  - Chlorophyta-Green Algae
  - Rhodophyta-Red Algae
  - Phaeophyceae-Brown Algae

Limu wawae 'iole (*Codium edule*)

Chlorophyta
Green Algae

7

Exercise Creation

Limu Exercise

In the spirit of Isabella Aiona Abbott, the author of your text and the first Hawaiian woman to earn a PhD., learn the Hawaiian name, scientific (*genus* only) name, and pigment-related classification of one edible marine algae species.

Hawaiian Name: _____

Note: *'okina* and *kahakō* are desirable if used correctly.

Scientific *Genus* Name: _____

First word of scientific name only.

Pigment Classification: _____

Pigment Choices: Green (Chlorophyta), Red (Rhodophyta), Brown (Phaeophyceae)

Note: *'okina* and *kahakō* are desirable if used correctly.

8

Caveats and Future Correction

- Performance subject to stochastic fluctuations such as weather and attendance as this is in-class exercise.
- Fall 2018 dropped to 43%.
- Many still not distinguishing genus and species.
- Many still trying to use Latin for pigment and failing.

- Make into a deliverable exercise to be graded with feedback.

9

Mahalo. Questions?

10

Math 150
SLO Assessment

Math 150

Technical College Math

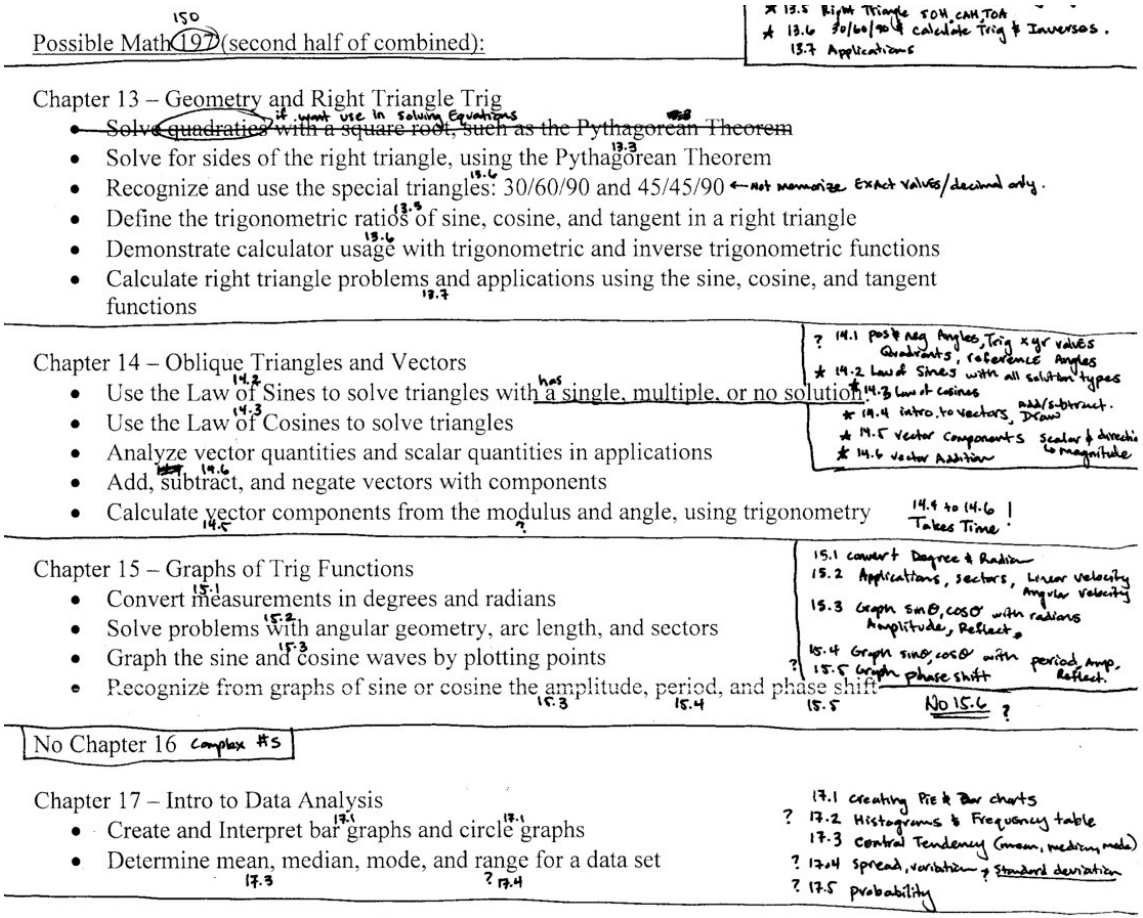
Fall2018

S. Foster

Overview

- By aligning the course content to the SLOs, it allows us to maintain course content and standards.
- Reviewing the SLO data allows us to review the corresponding content.
- Changes to presentations of content are intended to increase the success rates of the SLOs.
- Lecture presentations are intuitively revised based on student's understanding of the content.
- Therefore the "Future Changes to improve success rate" box on the SLO report is already addressed by our intuitive lecture changes.

Course SLOs aligned to Book Sections



Possible Math 197 (second half of combined):

Chapter 13 – Geometry and Right Triangle Trig

- ~~Solve quadratics with a square root, such as the Pythagorean Theorem~~
- Solve for sides of the right triangle, using the Pythagorean Theorem
- Recognize and use the special triangles: 30/60/90 and 45/45/90
- Define the trigonometric ratios of sine, cosine, and tangent in a right triangle
- Demonstrate calculator usage with trigonometric and inverse trigonometric functions
- Calculate right triangle problems and applications using the sine, cosine, and tangent functions

Chapter 14 – Oblique Triangles and Vectors

- Use the Law of Sines to solve triangles with a single, multiple, or no solution
- Use the Law of Cosines to solve triangles
- Analyze vector quantities and scalar quantities in applications
- Add, subtract, and negate vectors with components
- Calculate vector components from the modulus and angle, using trigonometry

Chapter 15 – Graphs of Trig Functions

- Convert measurements in degrees and radians
- Solve problems with angular geometry, arc length, and sectors
- Graph the sine and cosine waves by plotting points
- Recognize from graphs of sine or cosine the amplitude, period, and phase shift

No Chapter 16 Complex #s

Chapter 17 – Intro to Data Analysis

- Create and Interpret bar graphs and circle graphs
- Determine mean, median, mode, and range for a data set

Syllabus SLOs aligned to Book Sections

NEW SLOs with corresponding book sections:

- Use a calculator to convert degrees-minutes-second and decimal degrees (6.1)
- Compute perimeters (6.2) and areas (6.3) of two dimensional figures, include multi-component figures
- Compute volume (6.4) of three dimensional right prisms, pyramids, cones, and spheres
- Solve for sides of the right triangle, using the Pythagorean Theorem (13.3)
- Recognize and use the special triangles: 30/60/90 and 45/45/90 (13.6)
- Define the trigonometric ratios of sine, cosine, and tangent in a right triangle (13.5)
- Demonstrate calculator usage with trigonometric (13.5) and inverse trigonometric functions (13.6)
- Calculate right triangle problems and applications using the sine, cosine, and tangent functions (13.7)
- Analyze vector quantities and scalar quantities in applications (14.4-14.6)
- Add, subtract, and negate vectors with components (14.6)
- Calculate vector components from the modulus and angle, using trigonometry (14.5)
- Convert measurements in degrees and radians (15.1)
- Solve problems with angular geometry, arc length, and sectors (15.2)
- Graph the sine and cosine waves by plotting points (15.3)
- Recognize from graphs of sine or cosine the amplitude (15.3) and period (15.4).

Course Outline with Schedule

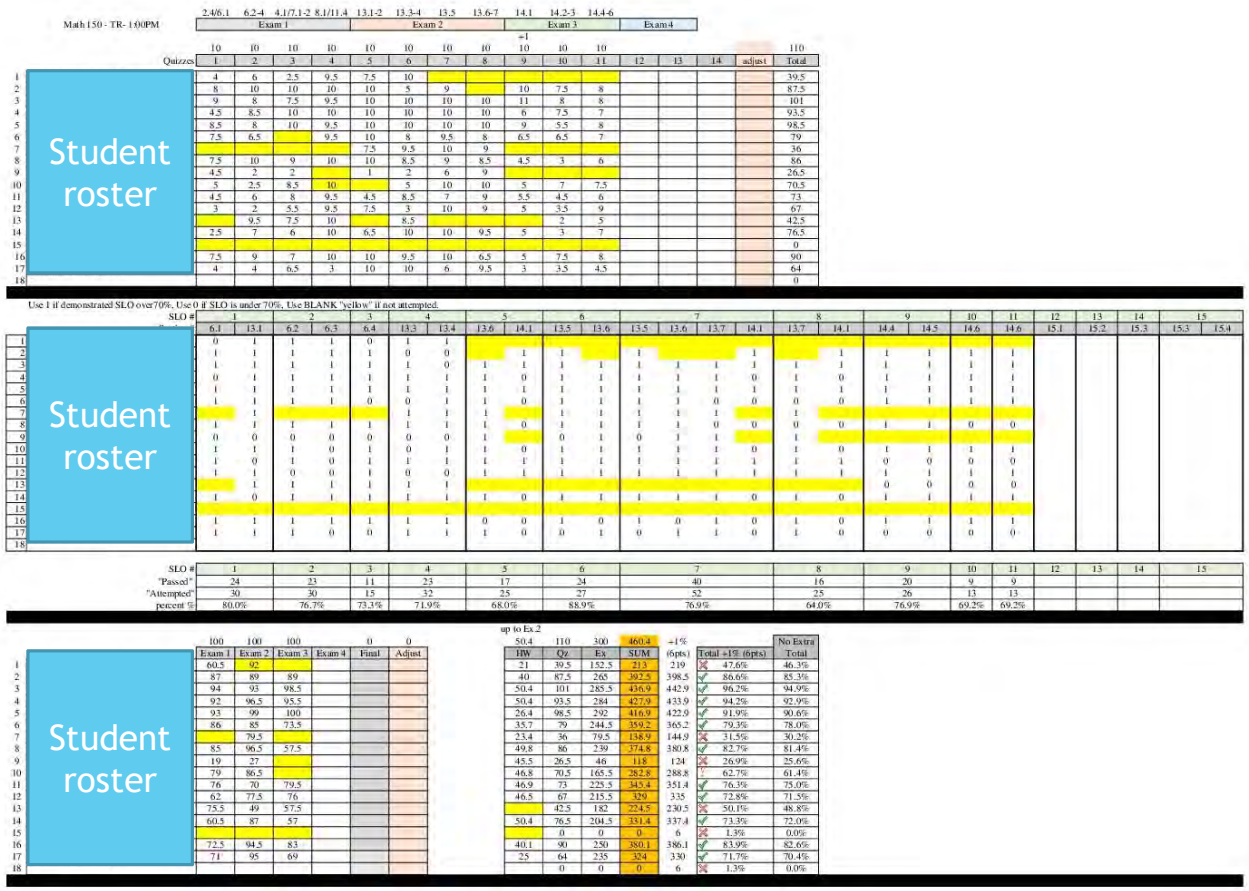
Math 150 - New Fall 2016 (MW - 31 lecture days)

3 Quizzes (MW)

Day #	Section #	SLO #	Section Content	Lecture Day
1	2.4 (Rvw50)		First Day (syllabus/MML set-up), 2.4: Significant Digits, Precision, Accuracy, Need Sig.Dig. for some of the MML assignments	22-Aug M
2	6.1	1 1	6.1: Define Angle parts/rules, convert degrees into Degrees/Minutes/Seconds, and basic polygons facts	24-Aug W
3	6.2&6.3	2 2	6.2: Perimeters, length of "ring" with inner diameter, perimeter of joined poly.s 6.3: Areas, areas of joined shapes, areas of rings or with cut-outs	29-Aug M
4	6.4 Q	3	6.4: Volume of limited shapes, volume of joined shapes (NO surface area) Supplement work for in-class/take-home of 3D surface areas/lateral area	31-Aug W
	Holiday - Labor Day No School			5-Sep M
5	4.1 Q (Rvw50)		4.1: Solve equations from one-step up to multi-step, with variable on both sides & distributing, check "evaluate", and write formulas	7-Sep W
6	7.1&7.2 Q (Rvw50)		7.1: System of linear, check solution, solve by Graphing, inconsistent/dependent 7.2: System of linear, solve by Substitution, also inconsistent/dependent	12-Sep M
7	8.1&11.4 Q (Rvw50)		8.1: Algebra distribution (like 3.4), and GCF (like 3.5), NOT factor by grouping 11.4: Quadratic formula, (some may have neg. in sq.root), NOT complete square	14-Sep W
8	Review Q		Review for Exam 1 (have formula sheet for quizzes & exam)	19-Sep M
9	Ex.1		EXAM 1	21-Sep W
10	13.1&13.2	1 again	13.1: Define angles, supplement/complement, corresponding/alt.interior angles 13.2: Angles for triangles & quadrilaterals, central & inscribed angles on circles	26-Sep M
11	13.3&13.4	4 4	13.3: Right triangles, Pythagorean formula 13.4: Similar triangles, identical angles, proportional solving for sides	28-Sep W
12	13.5 Q	6,7	13.5: Trig.Ratios of Right triangles, SOH, CAH, TOA (calculators to rationalize)	3-Oct M
13	13.6 Q	5,6,7	13.6: Find Trig. value from angle, Find angle from Trig. Value, some Trig. Ratios	5-Oct W
14	13.7 Q	7,8	13.7: Right angle applications, angle of depression/elevation	10-Oct M
15	Review		Review OR Catch-up Day (have formula sheet for trig. Set-up?)	12-Oct W
16	Ex.2		EXAM 2	17-Oct M
17	14.1	5,7,8	14.1: Trig. all quadrants/angles, reference angles, find the value for trig. angles, find the ratios/quadrant/angles for a point (may need set-up sheet)	19-Oct W
18	14.2 Q		14.2: Law of Sines with either one/two/no solutions (formula sheet)	24-Oct M
19	14.3		14.3: Law of Cosines with possible calculator neg.angle/quadrant (formula sheet)	26-Oct W
20	14.4&14.5 Q	9	14.4: Intro. to Vectors, draw sum tail-to-head 14.5: Vector components, calculate each part (formula sheet)	31-Oct M
21	14.6	10,11	14.6: Vector addition by Components (formula sheet)	2-Nov W
22	Review Q		Review OR Catch-up Day (have formula sheet for trig. Set-up?)	7-Nov M
23	Ex.3		EXAM 3	9-Nov W
24	15.1	12	15.1: Radian/Degree, radian reference angles, find values form angles, find angles from values, calculator setting (formula sheet)	14-Nov M
25	15.2 Q	13	15.2: Arc length, central angle, sector area, linear/angular velocity (formula sheet)	16-Nov W
26	15.3	14,15	15.3: Graph y=asin(x) & y=acos(x), amplitude, period, five-key "x" values, change the amp "a" including negative "a" (formula sheet)	21-Nov M
27	15.4	15	15.4: Graph y=asin(bx) & y=acos(bx), amplitude, period, five-key "x" values, change period "b" & amp "a", identify graphs (formula sheet)	23-Nov W
28	Review Q		Review OR Catch-up Day (have formula sheet for trig. Set-up?)	28-Nov M
29	Ex.4		EXAM 4	30-Nov W
30	Review		Review for Final	5-Dec M
31	Review		Review for Final	7-Dec W
	FINAL EXAM		FINAL EXAM	

Section #	SLO #	Section Content	Lecture Day
2.4 (Rvw50)		First Day (syllabus/MML set-up), 2.4: Significant Digits, Precision, Accuracy, Need Sig.Dig. for some of the MML assignments	22-Aug M
6.1	1 1	6.1: Define Angle parts/rules, convert degrees into Degrees/Minutes/Seconds, and basic polygons facts	24-Aug W
6.2&6.3	2 2	6.2: Perimeters, length of "ring" with inner diameter, perimeter of joined poly.s 6.3: Areas, areas of joined shapes, areas of rings or with cut-outs	29-Aug M
6.4 Q	3	6.4: Volume of limited shapes, volume of joined shapes (NO surface area) Supplement work for in-class/take-home of 3D surface areas/lateral area	31-Aug W
Holiday - Labor Day No School			5-Sep M
4.1 Q (Rvw50)		4.1: Solve equations from one-step up to multi-step, with variable on both sides & distributing, check "evaluate", and write formulas	7-Sep W
7.1&7.2 Q (Rvw50)		7.1: System of linear, check solution, solve by Graphing, inconsistent/dependent 7.2: System of linear, solve by Substitution, also inconsistent/dependent	12-Sep M

Course Grade Sheet: overview



Course Grade Sheet: quizzes

Math 150 - TR- 1:00PM	2.4/6.1	6.2-4	4.1/7.1-2	8.1/11.4	13.1-2	13.3-4	13.5	13.6-7	14.1	14.2-3	14.4-6		
		Exam 1				Exam 2			Exam 3			Exam 4	
	10	10	10	10	10	10	10	10	+1 10	10	10		
Quizzes	1	2	3	4	5	6	7	8	9	10	11	12	13
	4	6	2.5	9.5	7.5	10							
	8	10	10	10	10	5	9		10	7.5	8		
	9	8	7.5	9.5	10	10	10	10	11	8	8		
	4.5	8.5	10	10	10	10	10	10	6	7.5	7		
	8.5	8	10	9.5	10	10	10	10	9	5.5	8		
	7.5	6.5		9.5	10	8	9.5	8	6.5	6.5	7		
					7.5	9.5	10	9					
	7.5	10	9	10	10	8.5	9	8.5	4.5	3	6		
	4.5	2	2		1	2	6	9					
	5	2.5	8.5	10		5	10	10	5	7	7.5		
	4.5	6	8	9.5	4.5	8.5	7	9	5.5	4.5	6		
	3	2	5.5	9.5	7.5	3	10	9	5	3.5	9		
		9.5	7.5	10		8.5				2	5		
	2.5	7	6	10	6.5	10	10	9.5	5	3	7		
	7.5	9	7	10	10	9.5	10	6.5	5	7.5	8		
	4	4	6.5	3	10	10	6	9.5	3	3.5	4.5		

Student roster

Course Grade Sheet: SLOs

Use 1 if demonstrated SLO over70%, Use 0 if SLO is under 70%, Use BLANK "yellow" if not attempted.

SLO #	1		2		3	4		5		6		7				8		9	
Section #	6.1	13.1	6.2	6.3	6.4	13.3	13.4	13.6	14.1	13.5	13.6	13.5	13.6	13.7	14.1	13.7	14.1	14.4	14.5
	0	1	1	1	0	1	1												
	1	1	1	1	1	0	0		1	1		1			1		1	1	1
	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	0	0	1	1	0	1	1	1	1	0	0	0	0	1	1
		1				1	1	1		1	1	1	1	1		1			
	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	0	0	1	1
	0	0	0	0	0	0	0	1		0	1	0	1	1		1			
	1	1	1	0	1	0	1	1	0	1	1	1	1	1	0	1	0	1	1
	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
	1	1	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1
		1	1	1	1	1	1											0	0
	1	0	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0	1	1
	1	1	1	1	1	1	1	0	0	1	0	1	0	1	0	1	0	1	1
	1	1	1	0	0	1	1	1	0	0	1	0	1	1	0	1	0	0	0

Student roster

SLO #	1	2	3	4	5	6	7	8	9
"Passed"	24	23	11	23	17	24	40	16	20
"Attempted"	30	30	15	32	25	27	52	25	26
percent %	80.0%	76.7%	73.3%	71.9%	68.0%	88.9%	76.9%	64.0%	76.9%

Course Grade Sheet: SLOs

Use 1 if over 70%, use 0 if under 70%, use BLANK if not attempted

SLO #	5		6		7				8	
Section #	13.6	14.1	13.5	13.6	13.5	13.6	13.7	14.1	13.7	14.1
	1	1		1			1		1	
1	1	1	1	1	1	1	1	1	1	1
1	0	1	1	1	1	1	0	1	0	
1	1	1	1	1	1	1	1	1	1	
1	0	1	1	1	1	0	0	0	0	
1		1	1	1	1	1		1		
1	0	1	1	1	1	0	0	0	0	
1		0	1	0	1	1		1		
1	0	1	1	1	1	1	0	1	0	
1	1	1	1	1	1	1	1	1	1	
1	1	1	1	1	1	1	1	1	1	
1	0	1	1	1	1	1	0	1	0	
0	0	1	0	1	0	1	0	1	0	
1	0	0	1	0	1	1	0	1	0	

5	6	7	8
17	24	40	16
25	27	52	25
68.0%	88.9%	76.9%	64.0%

Assessment of SLO Data

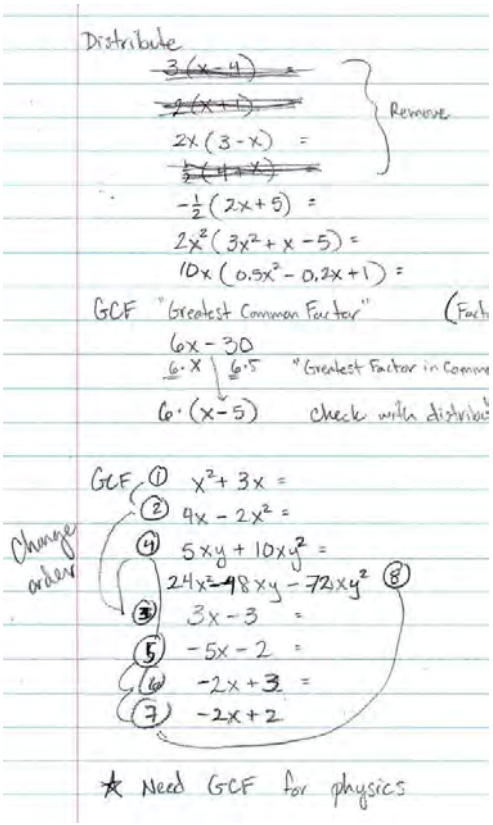
Since the SLO data is linked to each section, should the content of these sections be altered due to SLO results?

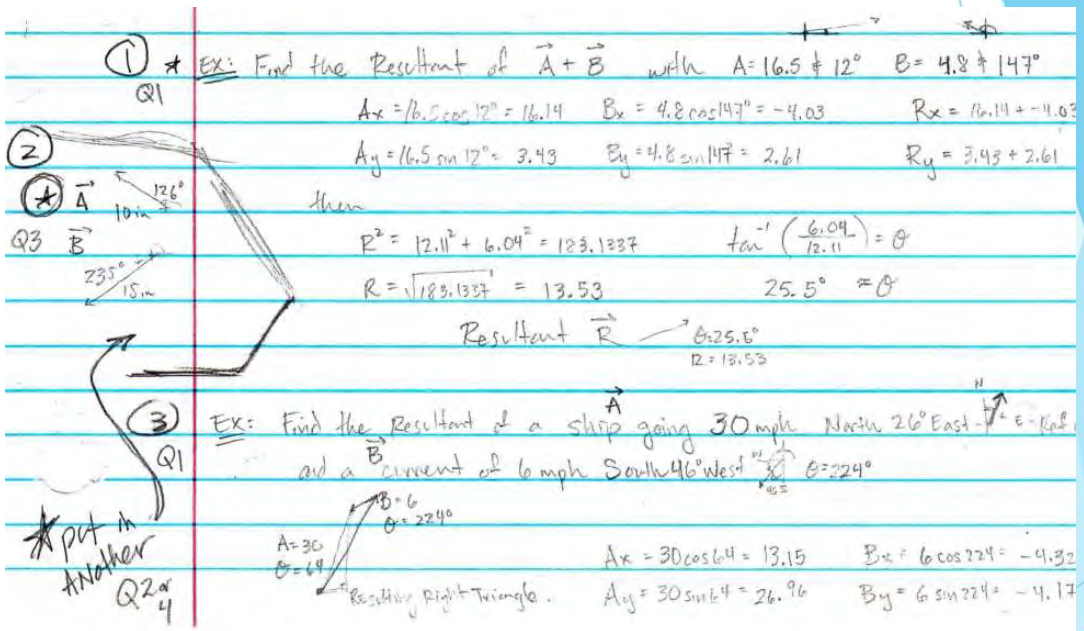
- NO, there are a Multitude of variables
  - The majority are the student's responsibility
  - The Book sections are aligned with SLOs
  - The Content is specifically selected to fulfil Course, Program, and/or Degree requirements

- Content should remain fixed, but the presentation and examples can be adjusted.
  - Improved flow of lecture
  - Increased examples
  - Intuitive action of thoughtful instructors

Lecture Adjustments based on in-class interactions

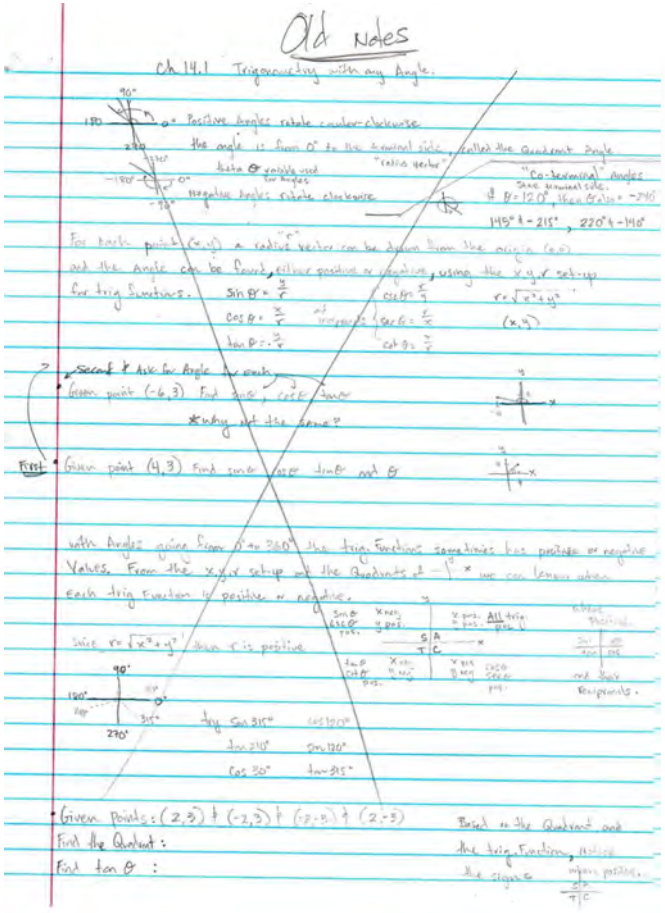
for Sections 8.1 and 13.7

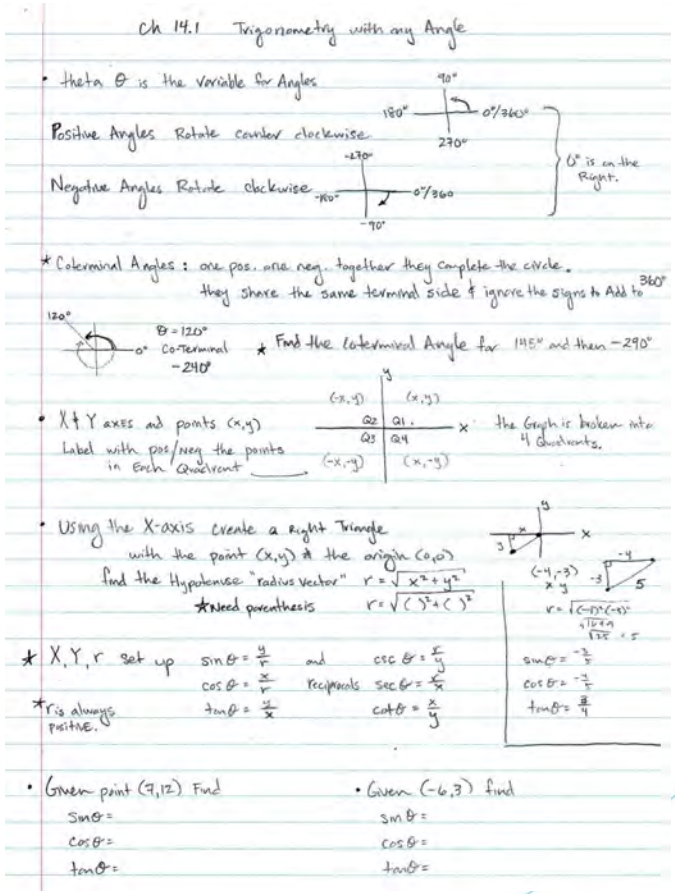




Lecture Re-write based on in-class interactions

for Section 14.1





Merging SLO Data with Intuitive Adjustments

5		6		7				8	
13.6	14.1	13.5	13.6	13.5	13.6	13.7	14.1	13.7	14.1
	1	1		1			1		1
1	1	1	1	1	1	1	1	1	1
1	0	1	1	1	1	1	0	1	0
1	1	1	1	1	1	1	1	1	1
1	0	1	1	1	1	0	0	0	0
1		1	1	1	1	1		1	
1	0	1	1	1	1	0	0	0	0
1		0	1	0	1	1		1	
1	0	1	1	1	1	1	0	1	0
1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1
1	0	1	1	1	1	1	0	1	0
0	0	1	0	1	0	1	0	1	0
1	0	0	1	0	1	1	0	1	0

5	6	7	8
17	24	40	16
25	27	52	25
68.0%	88.9%	76.9%	64.0%

Data for Section 14.1 shows low success rate.

Upon review, lecture notes for Section 14.1 were already adjusted intuitively based off of in-class interactions.

At this time, no additional changes are required to address success rates.

Summary

- By aligning the course content to the SLOs, it allows us to maintain course content and standards.
- Reviewing the SLO data allows us to review the corresponding content.
- Changes to presentations of content are intended to increase the success rates of the SLOs.
- Lecture presentations are intuitively revised based on student's understanding of the content.
- Therefore the "Future Changes to improve success rate" box on the SLO report is already addressed by our intuitive lecture changes.